Montana Office of Public Instruction

ESEA Title II, Part D "ED Tech"

Technology Plan

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Montana Office of Public Instruction
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Goal No. 1
Integrating Technology into Curriculum and Instruction: All Montana teachers will be effective and efficient integrators of technology into their curriculum and instruction.

> Measurable Objective 1.1: (Eighty-five percent) of district teachers will rate themselves as a "3" or better as measured by the Teachers' Technology Use in Teaching and Learning section of the Taking A Good Look at Instructional Technology (TAGLIT) by spring 2007.
>
> Districts participating in this objective will collect the baseline data fall 2002.
>
> Strategies:
>
> School districts participating in funding under ESEA Title II, part D, formula and competitive grants will be required to address objectives from this technology plan. For districts receiving formula level funding, the district may choose any and all objectives, aligning them to local needs, that they are able to meet with the level of funding provided. Districts receiving competitive funds will be required to address all objectives in their proposal.
>
> Districts aligned to this goal will utilize the TAGLIT assessment instrument to determine their baseline data and then their AYP (see example in Objective No. 2) required to meet it. Districts will design, implement and assess their own activities, aligned to local needs and directions, to fulfill this objective.

Goal No. 2

> **Integrating Technology into Curriculum and Instruction**: All Montana teachers will know, understand and be able to teach the content knowledge required by the Montana Technology Content and Performance Standards for students.
>
> Measurable Objective 2.1: Eighty-five percent (85%) of Montana teachers K-12 will know, understand and be able to teach the content knowledge required by the Montana Technology Content and Performance Standard 3 – Students use a variety of technologies for Communication – by Spring 2007 as measured by the Eisenhower Teacher Self-Assessment and Professional Development Study, standard 3 subsection (see Technology Resources and Systems section for information on the Eisenhower study).
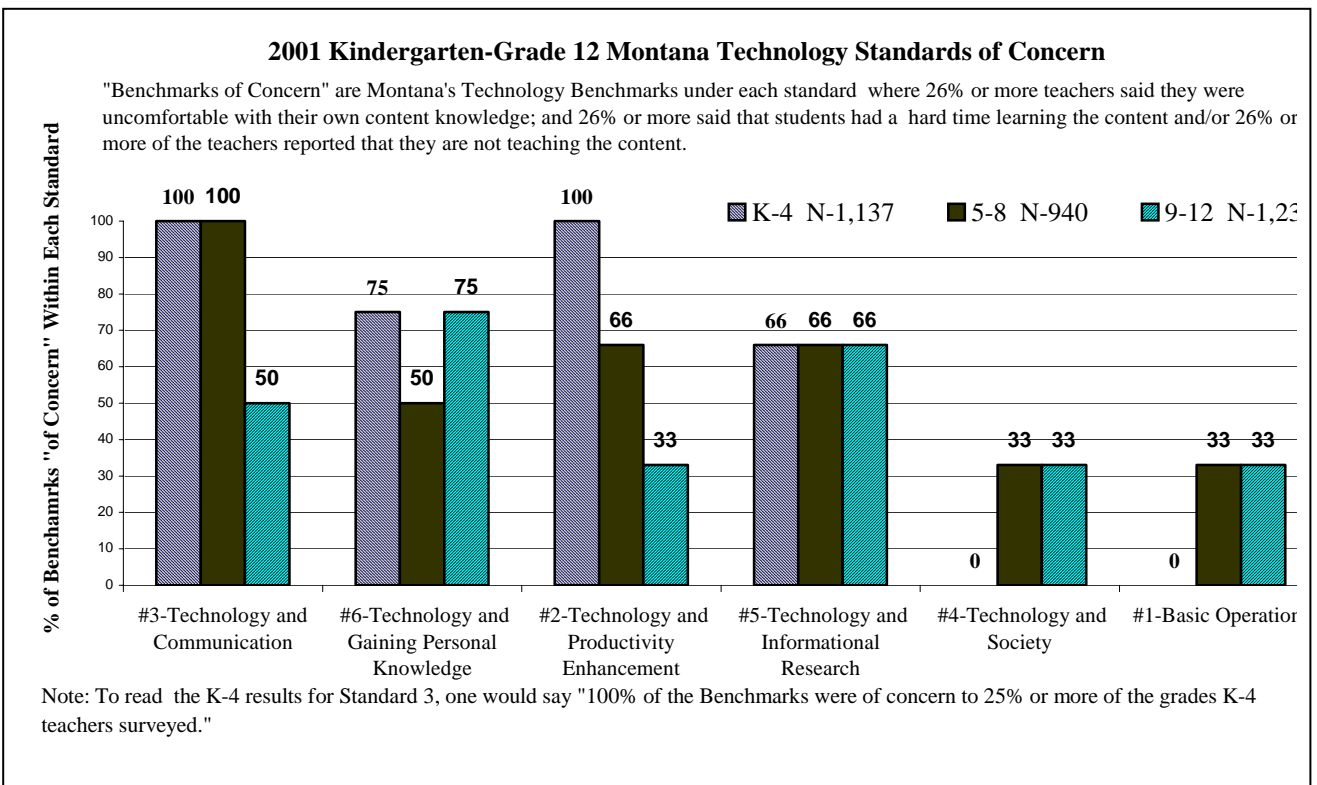
Measurable Objective 2.2: Eighty-five percent (85%) of Montana teachers K-12 will know, understand and be able to teach the content knowledge required by the Montana Technology Content and Performance Standard 6 – Students apply technological abilities and knowledge to construct new personal understanding – by Spring 2007 as measured by the Eisenhower Teacher Self-Assessment and Professional Development Study, standard 6 subsection.

Measurable Objective 2.3: Eighty-five percent (85%) of Montana teachers K-12 will know, understand and be able to teach the content knowledge required by the Montana Technology Content and Performance Standard 2 – Students use a variety of Technologies to Enhance Productivity – by Spring 2007 as measured by the Eisenhower Teacher Self-Assessment and Professional Development Study, standard 2 subsection.

Districts participating in these objectives will collect the baseline data Fall 2002.

Discussion:
The Eisenhower Teacher Self-Assessment and Professional Development Study, 2000-2001, identified the teacher comfort with the standards and benchmarks for technology. Utilizing that information, the Office of Public Instruction (OPI) is targeting the three standards that were of most concern to Montana teachers. Standards 3 – Students use a variety of technologies for communication, 6 – Students apply technological abilities and knowledge to construct new personal understanding, and Standard 2 – Students use a variety of technologies to enhance productivity.

2001 Kindergarten-Grade 12 Montana Technology Standards of Concern

"Benchmarks of Concern" are Montana's Technology Benchmarks under each standard where 26% or more teachers said they were uncomfortable with their own content knowledge; and 26% or more said that students had a hard time learning the content and/or 26% or more of the teachers reported that they are not teaching the content.

Note: To read the K-4 results for Standard 3, one would say "100% of the Benchmarks were of concern to 25% or more of the grades K-4 teachers surveyed."

	Standard/ Benchmark *	Statewide Baseline Fall '01	Standard/ Benchmark *	Statewide Baseline '01	Standard/ Benchmark *	Statewide Baseline Fall '01
	3.4.1	62%	6.4.1	77%	2.4.1	77%
	3.4.2	62%	6.4.2	66%	2.4.2	66%
	3.8.1	59%	6.4.3	62%	2.4.3	62%
	3.8.2	53%	6.4.4	68%	2.8.1	75%
	3.12.1	61%	6.8.1	75%	2.8.2	67%
	3.12.2	48%	6.8.2	67%	2.8.3	65%
			6.8.3	65%	2.12.1	83%
			6.8.4	53%	2.12.2	58%
			6.12.1	83%	2.12.3	59%
			6.12.2	58%		
			6.12.3	59%		
			6.12.4	61%		

Table title: Statewide Baseline Data For Objectives 2.1, 2.2, 2.3 — Teacher content comfort of Standards 3, 6, and 2.
Row label (rotated): Eisenhower Teacher Self Assessment
Footnote: *Code: Standard #, Grade level, Benchmark #

Strategies for Objectives No.2.1, 2.2, and 2.3

School districts participating in funding under ESEA Title II Part D, formula and competitive Grants will be required to address objectives from this technology plan. For districts receiving formula level funding, the district may choose any and all objectives, aligning them to local needs, that they are able to meet with the level of funding provided. Districts receiving competitive funds will be required to address all objectives in their proposal.

To meet this objective(s), districts will administer the sections of the Eisenhower survey that pertain to the objective (baseline data), plan and implement their local activities, and again administer the assessment to determine progress toward the goal. Districts will demonstrate that they are making Adequate Yearly Progress (AYP) toward the objective by determining the difference between their baseline data and the 85 percent proficiency desired.

Example:

For technology standard 3.4.1, the statewide baseline is 62 percent and the target is 85 percent, thus leaving a gap of 23 percent to be gained in the next years. Twenty-three divided by 6 (number of years left to reach the objective) equals 3.8 (round to 4). Thus, adequate yearly progress on this goal, utilizing this baseline data, is a 4 percent gain each year for this benchmark. While the actual growth toward the objective may be faster than the 4 percent per year, adequate progress would be considered to be 4 percent per year.

	Performance Measures For Objective 2.1 Teacher content comfort of Standard 3							
Eisenhower Teacher Self Assessment	Standard/ Benchmark *	Statewide Baseline Fall '01	Spring '02	Spring '03	Spring '04	Spring '05	Spring '06	Spring '07
	3.4.1	62%	66%	70%	74%	78%	82%	85%
	3.4.2	62%						
	3.8.1	59%						
	3.8.2	53%						
	3.12.1	61%						
	3.12.2	48%						
	*Code: Standard #, Grade level, Benchmark #							

Goal No. 3

Increasing the Ability of Teachers to Teach Utilizing Technology: All Montana teachers and principals will be technologically proficient.

> Measurable Objective: Eighty-Five percent (85%) of district teachers will rate themselves as a "3" or better as measured by the Teachers' Technology Skills section (basic tools, multimedia tools, communication tools, research/problem-solving tools) of the Taking A Good Look at Instructional Technology (TAGLIT) by Spring 2007.
>
> Districts participating in this objective will collect the baseline data Fall 2002.
>
> Strategies:
>
> School districts participating in funding under ESEA Title II Part D, formula and competitive grants will be required to address objectives from this technology plan. For districts receiving formula level funding, the district may choose any and all objectives, aligning them to local needs, that they are able to meet with the level of funding provided. Districts receiving competitive funds will be required to address all objectives in their proposal.
>
> Districts aligned to this goal will utilize the TAGLIT assessment instrument to determine their baseline data and then their Adequate Yearly Progress (AYP) (see example in Objective No. 4) required to meet it. Districts will design, implement and assess their own activities, aligned to local needs and directions, to fulfill this objective.

Goal No. 4

Enabling Students to Meet Challenging State Standards: All Montana students will be technologically proficient by eighth grade.

Measurable Objective: 85 percent (85%) of students will rate themselves as a "3" or better as measured by the Students' Technology Skills section (basic tools, multimedia tools, communication tools, research/problem-solving tools) of the Taking A Good Look at Instructional Technology (TAGLIT) by Spring 2007.

Strategies:

School districts participating in funding under ESEA Title II Part D, formula and competitive grants will be required to address objectives from this technology plan. For districts receiving formula level funding, the district may choose any and all objectives, aligning them to local needs, that they are able to meet with the level of funding provided. Districts receiving competitive funds will be required to address all objectives in their proposal.

Districts aligned to this goal will utilize the TAGLIT assessment instrument to determine their baseline data and then their AYP (see example in Objective No. 4) required to meet it. Districts will design, implement and assess their own activities, aligned to local needs and directions, to fulfill this objective.

Districts participating in this objective will collect the baseline data Fall 2002.

Steps to Increase Accessibility

Technology funding for school districts via the Timber Harvest (see Strategies for Funding section for details) funding approach are equitably distributed to districts via a formula determined by the enabling legislation. Local districts are in charge of applying the funds to meet local needs, including increasing technology access for all students.

ESEA Title II, Part D (1) formula delivered funds are targeted toward Title I school districts and provide those districts with the opportunity to increase access to technology for all students. ESEA Title II, Part D (2) will target those districts most in need of technology via the structure of the competitive program (see description in the Competitive Grant section).

The Office of Public Instruction hosts an Assistive Technology Task Force through the Special Education Division. The committee includes 17 state educators and three OPI staff members.

Assistive Technology Task Force Vision:
The Assistive Technology Task Force promotes and disseminates information and resources on best practices in assistive technology resulting in equal access for all.

Mission:
The vision will be accomplished by providing:
- ✓ Adequate, accessible resources,
- ✓ Ongoing "just-in-time" training,

- ✓ Networked, statewide communication and dissemination system,
- ✓ Comprehensive, well-defined service delivery unique to Montana, and
- ✓ Qualified, specialized personnel.

Accountability Measures

School districts accessing funding through ESEA Title II, Part D will be aligning their local technology plans with the goals and objectives of this technology plan. The measurable objectives, indicating the attainment level expected and the measurement tool to be used, provide the basis for accountability. Further data will be gleaned from the TAGLIT for other indicators of technology infusion in Montana schools. Possible indicators include: Technology Planning – Process, Document, Support and Policy, Technology Expenditures, Professional Development Needs, Technology and the Way the Classroom Works, Community Connections, Hardware, Software and Support.

Innovative Delivery Strategies

School districts across the state are utilizing existing distance learning networks and exploring the use of other technology supported methods. Vision Net, founded in 1995 to serve as a regional telecommunications company specializing in the use of leading edge technology, provides one avenue for districts in the delivery of courses and professional development. Videoconferencing, Internet services, wide area networks and broadband transport form the foundation of their services.

Vision Net School Sites		
Arlee Public School Arlee, MT	**Flaxville High School** Flaxville, MT	**Malta Public School** Malta, MT
Bainville High School Bainville, MT	**Fort Benton High School** Fort Benton, MT	**Medicine Lake High School** Medicine Lake, MT
Belt Public Schools Belt, MT	**Frazer High School** Frazer, MT	**Opheim High School** Opheim, MT
Blue Sky High School Rudyard, MT	**Froid High School** Froid, MT	**Outlook High School** Outlook, MT
Box Elder Public Schools Box Elder, MT	**Glasgow High School** Glasgow, MT	**Phillipsburg Public Schools** Phillipsburg, MT
Brockton Public Schools Brockton, MT	**Hardin Public Schools** Hardin, MT	**Power Public School** Power, MT
Browning High School Browning, MT	**Havre High School** Havre, MT	**Pryor Public School** Pryor, MT
Centerville Public School Centerville, MT	**Hays-Lodgepole High School** Hays, MT	**Rapelje Public School** Rapelje, MT
Chester High School	**Heart Butte High School**	**Saco High School**

Chester, MT	Heart Butte, MT	Saco, MT
Chinook High School Chinook, MT	**Hinsdale High School** Hinsdale, MT	**Scobey High School** Scobey, MT
Cut Bank High School Cut Bank, MT	**Joplin-Inverness High School** Joplin, MT	**Sunburst High School** Sunburst, MT
Dodson Public Schools Dodson, MT	**Kremlin-Gildford Public School** Gildford, MT	**Thompson Falls Public School** Thompson Falls, MT
Ennis Public Schools Ennis, MT	**Lincoln Public Schools** Lincoln, MT	**Westby High School** Westby, MT
Fairfield Public Schools Fairfield, MT	**Lodge Grass Public Schools** Lodge Grass, MT	**Whitewater Public Schools** Whitewater, MT
		Winifred High School Winifred, MT

Vision Net Sites College Campus and Others		
Blackfeet Community College Browning, MT	**Montana State University** Billings, MT	**Stone Child College** Rocky Boy, MT
Dull Knife Memorial College Lame Deer, MT	**Montana State University College of Technology** Great Falls, MT	**Nemont Telephone Conference Room** Scobey, MT
Fort Belknap College Fort Belknap, MT	**Montana State University Northern** Great Falls, MT	**Nemont Telephone Conference Room** Glasgow, MT
Fort Peck Community College Poplar, MT	**Montana State University Northern** (*3 studios*) Havre, MT	**Project Telephone Conference Room** Worden, MT
Fort Peck Community College Wolf Point, MT	**Montana State University Northern** Lewistown, MT Central MT Medical Center	**Montana State University** Bozeman, MT
Salish Kootenai Community College Pablo, MT	**Vision Net, Inc.** Great Falls, MT	

State of Montana Information Technology Environment

The State's information technology environment is managed and operated from an enterprise perspective mandated by the Montana Information Technology Act of 2001. The governance structure involves several organizations (Information Technology Board, Information Technology managers' (ITSD) of the Department of Administration, and agency information technology organizations. For a description of this governance structure, as well as detailed information about the State's plans for technology, see the State Strategic Plan for Information

Technology. Copies are available on ITSD's Internet Web site at http://www.state.mt.us/isd/css/default.asp The software standards can be found at: http://discoveringmontana.com/itsd/policy/software.asp

The State provides data networking facilities and services for all agencies and other qualifying organizations.

The **M**ontana **E**ducational **T**elecommunications **NET**work (METNET) Interactive Video System (http://discoveringmontana.com/isd/css/servicesrates/metnetvideoconf.asp) provides two-way interactive compressed digital video facilities across the state. The METNET system facilitates interactive video classes, training, meetings and hearings between the sites. METNET is available for use by state agencies, higher education, K-12 schools, and approved nonprofit corporations where usage qualifies under state statute.

METNET Locations		
Butte Deer Lodge Dillon	Great Falls Havre Helena	Kalispell Miles City Missoula Warm Springs

Additional Sites Accessible by METNET	
Montana Tribal Colleges Fort Peck Community College, Poplar Little Big Horn College, Crow Agency Salish Kootenai College, Pablo	**Eastern Montana Telemedicine Network** Baker Billings Columbus Culbertson Glasgow Glendive Helena Miles City Sidney
Video Link of St. Peter's Bozeman Law & Justice Boulder-MDC Helena Big Sandy Chester Choteau Conrad Cut Bank Fort Benton Havre Great Falls Rocky Boy Shelby	**Montana Partners In Health Telemedicine Network** Absarokee Billings Bridger Butte Crow Agency Hardin Harlowton Lame Deer Miles City Red Lodge

Non-Supplant Assurance

The Montana Office of Public Instruction receives no funding from the state of Montana or other non-federal sources, and thus does not utilize the funds provided under ESEA Title II Part D, Enhancing Education Through Technology to supplant funds from other sources. Local districts, on an indeterminate schedule, receiving Timber Harvest funds (see information provided under the "Strategies for Financing Technology"), will be required to address, in their technology plans and application for funds, the supplement/supplant issue with language that ensures that local funds will not be replaced with the ESEA Title II, Part D, Enhancing Education Through Technology funds.

Professional and Curricular Development

While the professional development of teachers and curriculum development are local responsibilities in Montana, administrative rules exist for those areas. Content and Performance Standards for Technology, as well as the content and performance standards for the other content areas and Standards Integration Charts serve as the basis for the infusion of technology across the curriculum and for the professional development of teachers. As resources become available to the Office of Public Instruction (OPI) through direct funding or partnerships with other agencies and institutions, professional development and curriculum development activities relevant to technology will be made available to Montana educators.

<u>Technology Content and Performance Standards</u>

Adopted into the Administrative Rules of Montana (ARM) in 1999 by the Montana Board of Public Education, the Montana Technology Content and Performance standards provide the basis for the infusion of technology across the curriculum in Montana school districts. Since districts are required to develop, implement and assess their own curriculum, the technology standards provide a strong unifying thread across Montana's nearly 500 districts.

The standards were developed by Montana educators and reflect the broad view that technology (including computers and other technologies) are a tool for the enhancement of teaching and learning in all content areas.

> "Properly applied, technology enhances instruction in a way that powerfully increases learning, but does not become the focus of learning. By providing access to information, opening pathways to communication, and facilitating personal understanding, technology supports learning in all subjects.
>
> Effective integration of technology into the learning environment encourages movement from teacher-centered instruction to student-centered learning – learning in which multi-sensory stimulation combines with increased student responsibility to widen the opportunity for all students to succeed.
>
> Technologically literate students work collaboratively in inquiry-based learning activities, rich in relevant content, while thinking critically and solving problems in real-world contexts.
>
> Technologically literate students use their skills across the curriculum to support their learning, while building lifelong learning habits and marketable skills."

<u>**Montana Content and Performance Standards for Technology**</u>

Standard 1 – Students demonstrate an understanding of the basic operations of technologies.

Standard 2 – Students use a variety of technologies to enhance productivity.

Standard 3 – Students use a variety of technologies for communication.

Standard 4 – Students use technology responsibly and understand its impact on individuals and society.

Standard 5 – Students develop the skills, knowledge and abilities to apply a variety of technologies to conduct research, manage information, and solve problems.

Standard 6 – Students apply technological abilities and knowledge to construct new personal understanding.

<u>**Technology Integration Charts:**</u> A Curriculum tool for Montana Educators

The Montana Office of Public Instruction, in conjunction with the Northwest Educational Technology Consortium (NETC) at the Northwest Regional Educational Laboratory, employed exemplary Montana educators to develop the Technology Integration Charts. The charts originally began as one chart designed to illustrate how the technology standards integrated easily into all the other Montana content and performance standards. Quickly it was realized that there was benefit in examining how all the content areas integrated with each other. As a result, one chart for each content area was created.

The charts illustrate the "implicit" and "explicit" overlaps in the standards. An "explicit" overlap indicates that a teacher will naturally cover both standards within a single teaching activity because the concepts are closely related. An "implicit" overlap indicates that a teacher could very easily teach both standards within a single teaching activity. The charts are available at http://www.opi.state.mt.us/ by using the drop down menu to find the Content and Performance Standards. The charts are posted as "PDF" files and can be viewed with Adobe Acrobat by utilizing the magnifier tool on the tool bar.

These charts will be utilized in all workshops produced or provided by the OPI as a tool for curriculum development and alignment.

<u>**Administrative Rules of Montana (ARM)**</u>

10.55.907 DISTANCE LEARNING
(1) Distance learning means technology-assisted individual and classroom instruction that connects students and teachers who are physically removed from each other.
(2) This rule applies to instruction that is counted for credit toward promotion and/or graduation.
(3) School districts may receive and/or provide distance learning.

(4) Receiving school districts may use distance learning to supplement instruction or as primary instruction.
(a) School districts receiving distance learning to supplement classroom instruction may utilize distance learning as they would other supplementary classroom resources without restriction.
(b) School districts receiving distance learning as the primary source of classroom instruction shall annually demonstrate in the fall report to the office of public
instruction that their distance learning instruction provides students equal opportunity to meet or exceed content and performance standards.
(5) Except as provided in (4)(a), a teacher of distance
learning shall hold Montana certification and endorsement in the area of instruction.
(a) In the event a teacher of distance learning is not
Montana certified and endorsed in the area of instruction, the receiving school district shall provide a facilitator who is Montana certified but need not be endorsed in the area of
instruction.
(b) When a teacher of distance learning is Montana certified and endorsed in the area of instruction, the receiving school district's facilitator need not be certified.
(c) School districts receiving distance learning as the primary source of accredited classroom instruction shall prepare and supervise facilitators.
(6) A distance learning class at each site shall meet class-size standards.
(7) Montana school districts providing distance learning shall annually: (a) register with the office of public instruction;
(b) verify their teachers of distance learning are Montana certified and endorsed in their areas of instruction; and
(c) demonstrate the students they serve have ongoing contact with their distance learning teachers.
 (8) Distance learning providers, other than Montana school districts, shall annually:
(a) register with the office of pubic instruction;
(b) verify the professional qualifications, including Montana teacher certification and endorsement if possessed, of their teachers of distance learning; and
(c) demonstrate that the students they serve have ongoing contact with their distance learning teachers.
(9) School districts receiving distance learning as a primary source of classroom instruction from a provider other than another Montana school district shall, by July 1 of the
year following the instruction, complete and submit an approved evaluation form to the office of public instruction. (History: Sec. 20-2-114, MCA; IMP, Sec. 20-2-121, 20-3-106, 20-7-101, MCA; NEW, 1989 MAR p. 342, Eff. 7/1/89; AMD, 1995 MAR p. 626, Eff.
4/28/95; AMD, 1998 MAR p. 2707, Eff. 10/9/98; AMD, 2000 MAR p. 3340, Eff. 12/8/00.)

10.55.601 ACCREDITATION STANDARDS: PROCEDURES
(1) The board of public education adopts standards of accreditation upon the recommendation of the state superintendent of public instruction.
(2) The board and the office of public instruction establish procedures and schedules for reviewing the accreditation status of each school.
(3) To ensure continuous education improvement, the school district shall develop, implement, evaluate, and revise a five-year comprehensive education plan.

(a) This plan shall include:

(i) a school district level education profile as described in guidance provided periodically by the office of public instruction;

(ii) the school district's educational goals in accordance with ARM 10.55.701;

(iii) a description of planned progress toward implementing all content, performance, and program area standards, in accordance with the schedule in ARM 10.55.603;

(iv) a description of strategies for assessing student progress toward meeting all content and performance standards, in accordance with ARM 10.55.603; and

(v) a professional development component, in accordance with ARM 10.55.714.

(b) By May 1, 2003, the district trustees shall file their adopted five-year comprehensive education plan with the office of public instruction and make their plan available to employees and the public.

(c) The office of public instruction shall develop and implement procedures necessary to monitor and evaluate the effectiveness of each school district's comprehensive education plan. ADMINISTRATIVE RULES OF MONTANA 3/31/02 10-771.1 10.55.601 BOARD OF PUBLIC EDUCATION

(4) To ensure continuous educational improvement and to meet the identified needs of students in every school, every school in the district shall develop and have on file in the district office a comprehensive education plan.

(5) To ensure continuous educational improvement, the office of public instruction shall provide guidance, resources, and evaluation to assist in the implementation of district and school plans to improve teaching and learning for all students.

(6) School districts are required to maintain present programs that meet current standards until such standards are superseded. The content and performance standards will supersede model learner goals according to the following schedule:

(a) Reading -- November 1998;

(b) Mathematics -- November 1998;

(c) Science -- October 1999;

(d) Technology -- October 1999;

(e) Health enhancement -- October 1999;

(f) Communication arts aligned to the reading content and performance standards -- October 1999;

(g) World languages -- October 1999;

(h) Social studies -- October 2000;

(i) Arts -- October 2000;

(j) Library media -- October 2000;

(k) Workplace competencies -- October 2000;

(l) Vocational/technical education -- October 2001.

(7) On or before July 1, 2004, a school district shall align its curriculum to the state content and performance standards and program area standards as adopted by the board of public education. A school district shall maintain programs to align with the state's schedule for revising standards. (History: Sec. 20-2-114, MCA; IMP, Sec. 20-2-121, 20-3-106, 20-7-101, MCA; NEW, 1989 MAR p. 342, Eff. 7/1/89; AMD, 1992 MAR p. 43, Eff. 1/17/92; AMD, 1992 MAR p. 1472, Eff. 7/17/92; AMD, 1993 MAR p. 682, Eff. 4/30/93; AMD, 1994 MAR p. 2524, Eff. 9/9/94; AMD, 1995 MAR p. 1037, Eff. 6/16/95; AMD, 1998 MAR p. 2707, Eff. 10/9/98; AMD, 2000 MAR p. 3340, Eff. 12/8/00; AMD, 2002 MAR p. 172, Eff. 2/1/02.)

10.55.603 CURRICULUM AND ASSESSMENT
(1) Local school districts shall incorporate all content and performance standards into their curriculum, implementing them sequentially and developmentally. School districts shall assess the progress of all students toward achieving content and performance standards in all program areas. Assessment of all students shall be used to examine the educational program and measure its effectiveness based on the content and performance standards.

(a) The examination of program effectiveness using assessment results shall be supplemented with information about graduates and other students no longer in attendance.

(b) The information obtained shall be considered in curriculum and assessment development. (2) For content and performance standards in all program areas in accordance with ARM 10.55.602(8), school districts shall:

(a) establish curriculum and assessment development processes as a cooperative effort of personnel certified and endorsed in the program area and trustees, administrators, other teachers, students, specialists, parents, community and, when appropriate, tribal representatives and state resource people;

(b) review curricula at intervals not exceeding five years and modify as needed to meet educational goals of the five-year comprehensive education plan in accordance with ARM 10.55.601;

(c) at least every five years, review and select materials and resources necessary for implementation of the curriculum and assessment that are consistent with the goals of the five-year comprehensive education plan; and

(d) review curricula to ensure the inclusion of the distinct and unique cultural heritage of the American Indians. ADMINISTRATIVE RULES OF MONTANA 12/31/02 10-773 10.55.603 BOARD OF PUBLIC EDUCATION

(3) School district assessment plans shall be included in the comprehensive education plan.

(a) School districts shall use effective and appropriate multiple measures and methods to assess student progress in achieving content and performance standards in all program areas.

(b) Utilizing input from representatives of accredited schools, the office of public instruction shall develop criteria and procedures for the selection of effective and appropriate multiple measures and methods to be used to assess student progress in reading and mathematics in grades 4, 8 and 11.

(c) The office of public instruction shall provide technical assistance to districts to meet the criteria and procedures in (3)(b).

(d) Not later than the school year immediately following the completion of written sequential curricula aligned with the content and performance standards in a program area in accordance with ARM 10.55.601(6), the school district shall begin the development of a student assessment process for that program area. The assessment process must be in place two years following the development of written curriculum.

(4) In addition to the school-by-school reporting of norm referenced testing results in accordance with ARM 10.56.101, districts shall annually report to the office of public instruction the school level results of measures for the standards that are not adequately assessed by the norm referenced tests in reading and mathematics at grades 4, 8 and 11.

(a) Utilizing input from representatives of accredited schools, the office of public instruction will identify the additional standards in reading and mathematics that are to be assessed with other measures.

(b) The measures used to report to the office of public instruction shall be included within the district assessment plan in accordance with ARM 10.55.601.

(c) The criteria and procedures set forth in (3)(b) shall be used by the office of public instruction in an approval process to assure the quality of the other measures that will be used to assess and report progress in reading and mathematics at grades 4, 8 and 11. (History: Sec. 20-2-114, 20-2-121, MCA; IMP, Sec. 20-2-121, 20-3-106, 20-7-101, MCA; NEW, 1989 MAR p. 342, Eff. 7/1/89; AMD, 1997 MAR p. 1185, Eff. 7/8/97; AMD, 1998 MAR p. 2707, Eff. 10/9/98; AMD, 2001 MAR p. 953, Eff. 6/8/01.)

Professional Development

ARM 10.55.714 Professional Development, requires local districts to focus on teachers as central to improving student learning. Ongoing, sustained, job embedded professional development is required and districts are required to plan collaboratively for the delivery proven research and practices in teaching, learning and leadership. An emphasis on the Montana Content and Performance Standards ensures that technology is integrated across the content areas.

Comprehensive Education Plan

ARM 10.55.601 Five-Year Comprehensive Education Plan

The Board of Public Education established the goal that all school districts develop, implement, evaluate, and revise a single five-year comprehensive education plan to ensure continuous education improvement for all students and all schools.

- **District Plan** - The ultimate goal is for a district to generate a single comprehensive education plan that meets local needs and the needs of all state and federal programs, with specific program amendments as necessary.
- **School Plan** - To foster continuous education improvement throughout the district and to meet the needs of all students in every school, every school in the district will develop and have on file in the district office, a five-year school comprehensive education plan following the district plan requirements.

The comprehensive education plan includes five components:

- A school district level education profile, provided in guidance by the OPI;
- District educational goals;
- A description of planned progress toward implementing all content, performance, and program areas standards;
- A description of strategies for assessing student progress toward meeting all content and performance standards; and
- A professional development component.

Curriculum Development

10.55.603 Curriculum Development and Assessment, requires districts to incorporate all of the content and performance standards into their curriculum, implementing them sequentially and developmentally. Districts must assess the progress of all students toward meeting those standards.

Technical Assistance

Technical assistance and information dissemination will be provided through a variety of methods proven to work for Montana. These methods include:

- Distribution to the Montana Association of School Superintendents (MASS) via their regional meetings, attended monthly by members of the OPI,
- Posting on the OPI Web site,
- E-mailed to districts via the state listserv that includes every district and county superintendent,
- Annual federal program consolidated application workshop provided via the Montana Educational Telecommunications Network (METNET),
- Workshops scheduled in the east and west areas of the state to detail the specific program requirements and guidance necessary,
- Workshops (including grant writing) broadcast through the METNET system,
- Telephone consultation,
- Workshop presentations at conferences including the Western Educational Technology Roundup, MEA/MFT Teacher Professional Development days, and the Montana Association of School Curriculum Development conference, and
- On-site visitations.

Technology Resources and Systems

With limited resources available and statutory limitations on the OPI, best practices in teaching and learning can best be encouraged and supported through networking and the effective use of data balanced with federal and state intitiatives. The OPI will continue to work with, and expand as possible, the activities available from networking partners.

Title II Part A State-level Activities Strategic Plan

Program Purpose: To build the capacity of Montana's Professional Development Programs to provide sustainable, job embedded, high quality professional development that will contribute to increased performance levels of all Montana's students.

Program Goals Aligned to NCLB Act of 2001 Goals:
- **All students will reach high standards at a minimum attaining proficiency in reading and mathematics.**

- **Highly qualified teachers will teach all students.**
- **All students will be educated in a learning environment that is conducive to learning.**
- **All students will graduate from high school.**

Strategy 1:
Improve accountability systems, comprehensive planning, and professional development by supporting schools and districts in obtaining, analyzing, and utilizing data for informed decision-making and focused professional development.

- Help districts implement a student centered data-driven process by continuing the Title II Part A Set-aside programmed called Data Strategies. ESEA Titles I, II, III, V, Carl Perkins, and IDEA staff joined the Data Strategies efforts in 1998 and remain an integral part in both the funding and the staffing of the program.

  o Current Measurement- Districts that have attended Data Strategies for one full year score significantly higher on their Title II Eisenhower final program evaluations than districts that have not attended data strategies. On-going evaluations of the content and strategies used in the series also provides yearly data on program revisions needed.
  o Future measurement will be based on Administration Regulations of Montana (ARM) rule 10.55.601 Comprehensive Education Plan Evaluations and on-going evaluations of the content and strategies used in the series.

- **Assisting district in designing a 5-year Comprehensive Education Plan required by the newly revised Administration Regulations of Montana (ARM) rule 10.55.601. All OPI staff involved in implementing the NCLB Act of 2001 and IDEA programs are working in concert in order to develop reporting documents for the 5-YCEP that will meet most of the local accountability requirements. NCLB OF 2001 and IDEA Goals are listed in the 5-YCEP instructions and districts are informed that the SEA expects districts to adopt these goals. All documentation and supporting training planned for the implementation of ARM 10.55.601 are informed by researched school improvement strategies that are proven to be most effective in increasing student achievement and by guidance from NCLB of 2001 and IDEA. All district ARM 10.55.601 profiles and plans will focus on the success of ALL students toward reaching high standards and the use of aggregated and disaggregated multiple measures to determine if students are successful.**

Strategy 2
- **Provide professional development focused on researched teaching strategies that improve the achievement of all groups of students, but especially those in the middle grades and those living in poverty. This professional development will be CONTENT RICH, on-going, job embedded professional development programs.**
- Update teacher content knowledge in those areas of Montana's mathematics standards that are indicated as greatest need.

- Measurement-ITBS/ITED mathematics results disaggregated by program participants LE and F/R Lunch in Grade 8.
- Longitudinal data from Eisenhower Math Teacher Self-assessment in Mathematics (follow-up survey to be completed Fall of 2004)..
  - Assist districts in the design and implementation of local assessments that are aligned with Montana's Content and Student Performance Standards and provide frequent, meaningful feedback to students, parents, and district personnel.
  -

<u>Strategy 3:</u>

Provide professional development that focuses on researched teaching strategies effective in improving the reading and language arts achievement of all groups of students, but especially boys and those living in poverty. This professional development will be CONTENT RICH, on going and job embedded.

- Update teacher content knowledge in those areas of Montana's mathematics standards that are indicated as greatest need.
  - Measurement-ITBS/ITED mathematics results disaggregated by boys and F/R Lunch in Grades 4, 8, and 11.
  - Longitudinal data from Eisenhower Math Teacher Self-assessment in Mathematics (follow-up survey to be completed Fall of 2004).
- Assist districts in the design and implementation of local reading and language arts assessments that are aligned with Montana's Content and Student Performance Standards and provide frequent, meaningful feedback to students, parents, and district personnel.

<u>Strategy 4:</u>

Boost the quality of teachers and principals by improving the accessibility of professional development across Montana.

- Partnership with Individuals with Disabilities Act Program, Montana Educator's Association and Montana Rural Schools Association to deliver and support the implementation of mentoring programs for new teachers, especially new teacher teaching full inclusion and special education classes.
- Continue development of high quality professional development programs delivered through distance learning methods.
- Continue development and implementation of regional professional development offerings aligned to regional needs assessment now in progress.
- Continue mini-grant program available to districts to support action research.

<u>Strategy 5:</u>

Research issues and solutions to teacher certification and recertification or licensing requirements in order to meet federal requirements for teacher professionals and paraprofessionals to meet 1119(a)(2)

<u>Strategy 6:</u>

Assist districts and schools in the recruitment and retention of principals teachers, including those licensed or certified through alternative routes by examining and changing the Montana teacher and principal certification policy to include a provision for intern principals, counselors, and teachers.

- Through a partnership with the State Education Leadership Partners Grant (SELP), the Office of Public Instruction and the Board of Public Education is revising the school accreditation policies to include the internship status for teachers working toward full endorsement in a specific grade level or content area.
- The above accreditation policy is also to include internship status for principals and counselors working toward full certification.
- Policy issues regarding small district pay and insurance are currently being researched in order to find solutions to retention issues in small rural schools.

Bill and Melinda Gates Foundation State Challenge Grant for Leadership in Montana

(Information adapted from the website at
http://www.soe.umt.edu/grants/gates/about.htm)

The Bill & Melinda Gates Foundation's leadership development grants provide the resources and training to strengthen education leadership from the classroom to the district office. The Bill and Melinda Gates Foundation, through the State Challenge Grants for Leadership Development, is committed to help provide every superintendent and principal, in public and private schools across the nation, access to quality professional development, with a focus on whole systems improvement and creating a high-performance learning environment through technology integration.

Accordingly, the Gates Foundation has awarded The University of Montana, in collaboration with Montana State University and other contract entities, a grant to enhance the leadership capacity in Montana schools through increased use of technology. At the University of Montana, the project is managed through the Office of the Vice President for Research (Wes Snyder); at Montana State University (Gloria Gregg), technical assistance is provided by the educational leadership program.

Overview
The Montana Leadership and Technology (LeadTech) Project is designed to provide information for and short-term training in technology to the administrators of Montana schools. This includes information about leadership and technology, assistance in comprehensive planning for school districts, useful websites for school services, and training workshops in using information wisely. The Project also implements virtual discussions for new program implementation in schools and districts, legal information for school management advisement, and expansion of training activities to ensure that all schools have leadership and technology training programs. LeadTech provides a wide-range of information and services to enable administrators to tailor assistance packages for their schools based on their particular status and context. Short-term workshops and seminars, both in residence and online, are the primary professional development mechanisms for immediate leadership impact in the use of technology. Assistance online with the 5-year Comprehensive Education Plan development of the Montana Office of Public Instruction serves to link schools and districts to technical assistance. Workshops and conferences will assist fill in the needs for technology enhancements in the schools. With inherent geographical and professional isolation, the rural schools of Montana face many issues that require current

information and continual collaborative professional review. These needs are often unmet by the current professional development opportunities, and technology provides the answer to increased connectivity and improved possibilities. The project provides assistance across the state but focus will be given to improvements in technology availability and use in Eastern Montana. The Leadership and Technology Project is a cooperative effort of The University of Montana (lead institution) and Montana State University with its efforts initially funded by the Bill and Melinda Gates Foundation.

The Leadership and Technology Project aims to assist schools improve the use and effectiveness of technology in their programs. The following questions are some of those to be addressed by the use of technology/utilization in Montana schools, particularly in the rural or reservation areas.

How can we address the vast individual differences that confront a schooling system?

How we provide sufficient depth and variation in learning while addressing the social/cultural needs of learners?

How can we deal with the increasing complexity of curricula?

How do we provide the latest information, the varying points of view, and the interrelationships that exist among subjects and topics?

How can we meet the various learning preferences and needs of teachers and learners?

Is there a way to engage learners in the learning process so that they develop in the best ways they can?

Is there a way to continue the education and training of teachers so that they are well endowed to create a quality-learning environment in the schools?

how can we help parents ensure quality education for their children? With increasing difficulty and complexity of material and gaps in time since exposure, school topics are not easy for parents to take up so that they can help their children with homework, extra support, and tuition.

How can we provide everyone with access and review?

How do we help those learners who are not part of the mass schooling system? Or

How do we help older, mature learners?

How do we help those learners who have special needs that aren't easily accommodated in local schools? How do we address those learners not proximate to educational facilities or opportunities?

Is there a way to authenticate contexts in which learning takes place?

How can we ensure that schools always have the best of information, resources, activities available for their program? Textbooks, readers, and instructional materials are static and fixed, usually with a limited viewpoint and rigid structure. How can we provide our schools with flexible information so that they can meet the local and individual needs of their community and culture?

How can we help schools, teachers, parents, and learners manage their educational activities and processes?

How do we ensure that students are capable of participating in numerous discourse communities to enable their continual education? If these communities are different than conventional classroom discourse, how do we prepare students for these new contexts?

The Milken framework, recommended by the Gates Foundation, is the programming guide for this project to address these questions, and the dimensions of progress are translated into local needs and shaped by local context. Each school or district administrator is assisted through LeadTech to develop a learning environment that:

Enables students to maximize their potential by providing comprehensive coverage of challenging content (providing content through technology when rural isolation or resource limitations prevail),

Establishes a conducive school culture and ensures access to technology,

Assures professional competency in the use of technology that enhances learning opportunities,

Requires independent student roles, and faculty proficiency in technology,

Develops system capacity through comprehensive long-term plans that result in meaningful learning activities for students,

Engages the broader community to define a compelling vision for the school,

Establishes community connections that provide partnerships and collaborations and ensures that stakeholders are committed and involved,

Improves technology capacity to ensure the availability of modern technology equipment and provides technical support, and

Guarantees accountability to check progress, track progress, set clear goals, and establish communication plans and mechanisms for informed feedback and forward planning (primarily through the Gates funded TAGLIT survey).

Earth Observing System

The Earth Observing System (EOS) is the centerpiece of NASA's Earth Science Enterprise (ESE). It is composed of a series of satellites, a science component, and a data system supporting a coordinated series of polar-orbiting and low inclination satellites for long-term global observations of the land surface, biosphere, solid Earth, atmosphere, and oceans. EOS will enable an improved understanding of the Earth as an integrated system. The EOS Project Science Office (EOSPSO) is committed to bringing program information and resources to program scientists and the general public alike.

Montana TALES

Montana TALES is a professional development model to assist teachers first in learning technology, then in using that technology in their existing curriculum. It is built on the concepts of constructivist education - that is, students try out ideas, discarding those that do not work and embracing those that do. The students then construct models that enable them to better understand and continue to explore their world.

Montana TALES asks teachers to work collaboratively in an integrated, transdisciplinary manner with their fellow teachers to develop units of study that afford students this opportunity. Use of this model builds a community of learners of all ages.

Montana TALES seeks to close "the digital divide" through outreach programs to local families and communities.

Participating Sites:

Billings Middle Schools
   • Castle Rock Middle School
   • Lewis & Clark Middle School
Cascade Schools K-12
CO-TEACH Preschool, Missoula
Corvallis High School
East Helena Schools
   • Radley Elementary School
   • East Valley Middle School
   • Eastgate School
Capital High School
Lincoln Schools K-12
Loyola-Sacred Heart High School
   • St. Joseph Elementary School
Polson Schools K-12
   • Cherry Valley Elementary
   • Linderman Elementary
   • Polson Middle School
   • Polson High School
St. Ignatius Schools
St. Regis Schools K-12
Superior Schools K-12
Target Range Elementary School
Townsend Schools K-12

Montana TALES will include: 1) an analysis of teachers' comfort with and ability to use technological media for inquiry, expression, communication, and construction; 2) measures of teacher, student, parent, and community participation and satisfaction; and, 3) student attainment of State specified content performance standards.

Preparing Teachers to Teach Technology (PT3)

The OPI has partnerships with the three Preparing Teachers to Teach Technology (PT3) grants currently held at three of the state's universities. The activities of these grants are enhancing the quality of teachers through their work with preservice teachers, and their outreach to in-service teachers and school districts are helping to ensure the infusion of best practices in technology education.

Regional Technology Centers (RTEC's)

The RTEC's have been influential in shaping technology education in Montana. Through the Northwest Educational Technology Consortium (NETC), the state has benefited from the research and product development available from all of the technology centers nationwide. Specifically NETC has supported Montana's efforts to develop their Technology Content and Performance Standards and the Standards Integration Charts (see the Professional and Curricular Development section for details), as well as working with districts on technology planning. The resources from NETC, and most specifically, the Classrooms@Work/Tools@Hand video series demonstrating effective technology infusion at the elementary, middle school and high school levels, have been very valuable resources to the state. The NETC staff have been active providers of professional development in Montana.

Eisenhower Teacher Self-Assessment and Professional Development Study

Conducted annually by the OPI, the study asks teachers to examine their knowledge of the content and performance standards that they are teaching, their students' ability to meet those standards and the professional development that they receive. In school year 2000-01, the survey focused upon the technology standards. A total of 3,310 teachers (approximately one-third of all Montana teachers) voluntarily participated in the study.

The purpose of the study was to gather information from K-12 teachers to identify priorities for content-rich professional development, current instructional challenges, and areas for improvement of professional development offerings. The results are assisting in planning professional development as Montana school districts implement the content and performance standards as well as shaping the direction of the Montana Office of Public Instruction Technology plan and the ESEA Title II, Part D funding opportunities (see the Goals and Objectives section).

Strategies for Financing Technology

Montana finances technology for school district utilizing funds from a variety of resources. The legislature created the Timber Harvest Fund, and the Technology Depreciation Fund to assist districts with supplementing technology budgets created from local school levies.

Timber Harvest Funds
- Created by the Legislature to fund technology
- Funds generated by harvest of trees on state lands, (when harvest exceeds 18 million board feet per year)
- Generates funding every other year (usually)
- During the 2001-2003 school year, $156,750 was distributed, last year, $3,499,816 was, distributed (which equals approximately $1 per student this year, $23 per student last year)
- Payments are made in early fall
- District Clerks are notified
- Funds must be budgeted and can only be spent for technology related needs

- Funds do not have to be spent in the fiscal year they were received in
- Funds are managed in the district's Technology Fund 28

Technology Depreciation Fund
- Established by the 2001 Legislature
- Allows districts to run a mill levy for technology replacement
- Once adopted, it does not need to be voted on again (as long as the amount requested does not increase)
- Revenues must be budgeted as for the Timber Harvest Fund
- Districts can levy up to 20 percent of the original technology costs per year
- Technology costs include hardware, software, and professional development
- Election may be run along with another election or alone

<u>Strategies for Parental Involvement</u>
Applicants will address their local strategies for parental involvement in their technology plans and application. Applicants may include the use of local web sites for informing parents of assignments, student progress and other locally relevant information, the employment of technology open houses, and other techniques to inform parents about the use of technology in their district to improve teaching and student learning.

10.55.714 Professional Development, Administrative Rules of Montana requires local districts to focus on teachers as central to improving student learning. Ongoing, sustained, job embedded professional development is required and districts are required to plan collaboratively for the delivery proven research and practices in teaching, learning and leadership. An emphasis on the Montana Content and Performance Standards ensures that technology is integrated across the content areas.

<u>Incentives</u>

Local districts determine incentives (if any) that will be offered to their teachers. A few districts reportedly offer stipends for teachers to attend professional development opportunities beyond the contractual period while others have developed master's level course offerings for their teachers.

<u>Support</u>

Technology is a catalyst for change in the classroom processes because it provides a distinct departure, a change in context that suggests alternative ways of operating. It can drive a shift from a traditional instructional approach toward a more eclectic set of learning activities that Include knowledge-building situations for students. Sandholtz, J. H., Ringstaff, and C., Dwyer, D.C. <u>Teaching with Technology: Creating Student-Centered Classrooms</u> (1997).